# EPA Interpolation Methodology

The river is divided longitudinally into three areas; 1 - west shore to west navigation channel boundary, 2 - navigation channel and 3 - east navigation channel boundary to the east shore. Additionally, Swan Island Lagoon is considered its own area. See Figure 1.

Data from the combined LWG_FS_Sed, Gasco_SE and Arkema_EECA database is averaged by spatial location for each of the four COCs (LWG RA Total PCDD/F (Calculated U = 1/2), LWG RA Total PAH (Calculated U = 1/2), LWG RA Total DDx (Calculated U = 1/2) and both LWG RA Total PCB Aroclors (Calculated U = 1/2) and LWG RA Total PCB Congener (Calculated U = 1/2)) where Depth Classification = 'Surface Sediment'. The averaged data is then mapped.

The data for each COC within each area is then interpolated using a Natural Neighbor algorithm. Extra points are added outside the area's extent with a value of 0 to ensure that the interpolation convers the entire area. Each area is then extracted from its respective interpolated raster using the area's extent, resulting in four individual rasters (east, west, navigation channel and Swan Island Lagoon) for each COC. Each COCs extracted areas are then mosaicked together to create one site wide raster.
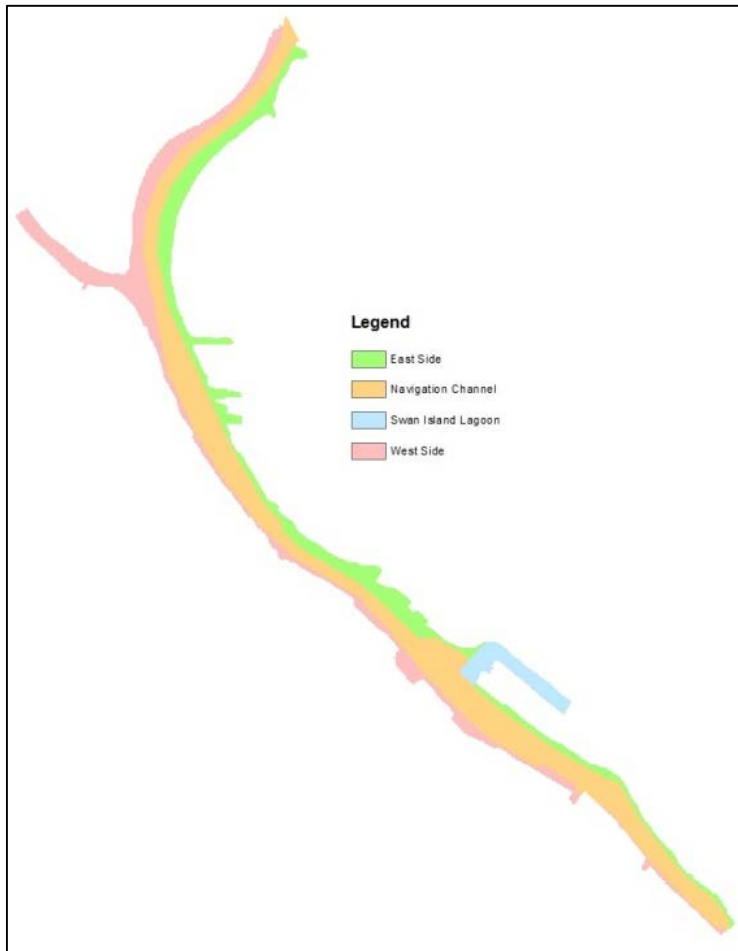
Figure 1

For each COC and each alternative (B, C, D, E, F, G), the rasters are reclassified to 0 if they are less than the RAL value (Table 1) and 1 if greater. The 4 COC rasters are then summed for each alternative creating a combined raster where any cell greater than 0 is considered part of that alternative's cookies. The rasters are then converted to polygons creating a polygon layer for each alternative.

COC	Alt_B	Alt_C	Alt_D	Alt_E	Alt_F	Alt_G
Total PAH	170,000	130,000	69,000	35,000	13,000	5,400
Total PCDD/F	13	9	6.3	4.7	3	1.8
Total DDx	650	550	450	300	160	40
Total PCB	1000	750	500	200	75	50

Table 1